

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
SHERMAN DIVISION**

VIRGINIA INNOVATION SCIENCES, INC.,	§	
	§	
	§	Case No.: 4:18-cv-00474 ALM
v.	§	
	§	(LEAD CASE)
AMAZON.COM, INC., et al.	§	
	§	
INNOVATION SCIENCES, LLC	§	Case No.: 4:18-cv-00475 ALM
	§	
v.	§	
	§	
RESIDEO TECHNOLOGIES, INC.	§	
	§	
INNOVATION SCIENCES, LLC	§	Case No.: 4:18-cv-00476 ALM
	§	
v.	§	
	§	
HTC CORPORATION	§	
	§	

**DEFENDANT HTC CORPORATION’S MOTION FOR SUMMARY JUDGMENT OF  
INVALIDITY UNDER 35 U.S.C. § 101**

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Patent eligibility in this case must be considered in light of the parties' prior litigation in which the Federal Circuit affirmed the district court's rulings that eight related patents were ineligible under 35 U.S.C. § 101. *See Va. Innovation Scis., Inc. v. HTC Am., Inc.*, No. 1:16-CV-1350, 2017 WL 6211100 (E.D. Va. Jan. 5, 2017); *Va. Innovation Scis., Inc. v. Amazon.com, Inc.*, 227 F. Supp. 3d 582 (E.D. Va. 2017) ("*VIS I*"), *aff'd*, 718 F. App'x 988 (Fed. Cir. 2018). In the instant case, Plaintiff Innovation Sciences, LLC and its predecessor Virginia Innovation Sciences, Inc. ("Plaintiff") are asserting U.S. Patent No. 9,729,918 (the "'918 patent"), U.S. Patent No. 9,912,983 (the "'983 patent"), and U.S. Patent No. 9,942,798 (the "'798 patent") (collectively, the "Asserted Patents") (Exs. 1-3). The Asserted Patents belong to the same family as the ineligible patents in *VIS I* and have claims directed to the same abstract idea. At best, the claims of the Asserted Patents add the receiving of a particular type of data—information relating to the status of a household item. But this does not avoid patent ineligibility. Just as before, the claims of the Asserted Patents are described in purely functional terms and use conventional computer components in conventional ways. Missing is any improvement to computer functionality or an inventive concept. Therefore, this case warrants the same treatment as in *VIS I*: the claims of the Asserted Patents should be held ineligible under 35 U.S.C. § 101.

In 2016, Plaintiff filed lawsuits against Defendant HTC Corporation and also against Amazon.com, Inc. alleging infringement of U.S. Patent No. 7,899,492 (the "'492 patent") and seven related patents (collectively, the "*VIS I* Patents").<sup>1</sup> At *Alice* step one, the court held that all of the *VIS I* Patents were "directed to the same three step process: (1) receiving data; (2) processing data; and (3) providing or displaying data." *VIS I*, 227 F. Supp. 3d at 596, *aff'd*, 718 F. App'x 988 (Fed. Cir. 2018). At *Alice* step two, the *VIS I* court recognized that "[b]ecause

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<sup>1</sup> U.S. Patent Nos. 7,899,492; 8,050,711; 8,903,451; 8,948,814; 9,118,794; 8,712,471; 9,286,853; and 9,355,611. *VIS I*, 227 F. Supp. 3d 582, 587 (E.D. Va. 2017).

neither the ‘mobile terminal’ nor the ‘alternative display device’ is limited in any meaningful way by the patents’ claims, the step-two analysis centers on the MTSCM.” *Id.* The MTSCM or mobile terminal signal conversion module “converts the mobile signal into a power level and display format that is compatible with the display monitor (114), which reproduces the original signal.” *Id.* at 588. The court concluded that “[b]ecause the MTSCM only contains functional language rather than specific instructions, the patents do not add any inventive concept to the abstract plan to convert a video image from a mobile screen to a television.” *Id.* at 600.

Nor was there an inventive concept in the power supply, by which “the cord that transmits the converted signal from the [MTSCM] to the television also provides power from the television to the [MTSCM].” *Id.* at 602. The court explained: “As with the MTSCM, there is no further description as to how this power transfer should be achieved. There is no cable design, specified power level, or anything else that narrows the claim.” *Id.* Finally, the court found no inventive concept for the claims as an ordered combination explaining: “when claims are laid out in purely functional language and use conventional technology in a typical manner, they are not patent eligible as an ‘ordered combination.’” *Id.* at 604 (citations omitted). Plaintiff appealed to the Federal Circuit, which affirmed under Federal Circuit Rule 36. *See Va. Innovation Scis., Inc. v. HTC Corp.*, 718 F. App’x 988 (Fed. Cir. 2018).

## **I. STATEMENT OF THE ISSUES**

Whether Claims 27, 30, 111, 113, and 115 of the ’918 patent; Claims 22, 26, 39, and 75 of the ’983 patent; and Claims 1, 18, 22, 30, and 52 of the ’798 patent (collectively, the “Asserted Claims”) are directed to patent ineligible subject matter under 35 U.S.C. § 101.

## **II. STATEMENT OF UNDISPUTED MATERIAL FACTS**

The Asserted Patents are each titled “Method and System for Efficient Communication” and share a common specification. The Asserted Patents are related to each other and also to the

*VIS I* Patents through continuation or continuation-in-part applications.

One embodiment of the alleged invention is a “Management Center” or “MC.” *See* ’983 patent 21:32-35.<sup>2</sup> The MC “receives, selects, converts, compresses, decompresses, and rout[e]s data to the user terminals.” ’983 patent 21:32-35. *See also* ’983 patent 21:51-53; 21:59-63. The specifications describe a “mobile terminal signal conversion module” or “MTSCM” that “processes signals to accommodate reproduction by an external device.” *See* ’983 patent 16:29-30; 16:35-39. The MC is equipped to provide MTSCM functionality. *See* ’983 patent 27:38-44. For the MTSCM, “any *conventional* or to-be-developed technology for delivering voice and/or data to mobile terminals may be provided.” ’983 patent 16:14-16 (emphasis added). The MTSCM operates on a conventional execution platform comprising of well-known components, such as a processor, memory, and a power supply. *See* ’983 patent 17:27-37. The MTSCM outputs a signal through a conventional output interface. *See* ’983 patent 19:25-27.

The MC communicates item status information, which includes diaper monitoring. *See* ’983 patent 21:38-40; 26:59-61; 21:51-58. The specifications describe a diaper management system, which is an example of a system for providing item status updates. *See* ’983 patent 5:18-21; 12:43-44. The system includes a “diaper condition sensing module” (or “DCSM”) and a “central receiver/controller” (or “CRC”). ’983 patent 12:44-46. If the diaper is wet, the sensor triggers a transmitter to send a signal to inform the CRC. *See* ’983 patent 13:3-6. The wireless connection between the DCSM and the CRC is conventional. *See* ’983 patent 13:6-9. Conventional approaches allow the CRC to communicate with multiple sensors. *See* ’983 patent 13:10-14. The CRC “operates on a conventional processing platform.” ’983 patent 12:47-48.

Another embodiment is a “centralized HUB system” or “CHS.” *See* ’983 patent 24:19-22.

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<sup>2</sup> Although citations in Part III are to the ’983 patent, the same language is found in the ’918 and ’798 patent.

The CHS can communicate information about the status of an item, such as through diaper monitoring. *See* '983 patent 24:26-28; 25:27-28; 25:17-24. The CHS can also perform conversion functions, including MTSCM functionality. *See* '983 patent 24:28-29; 25:1-2 ; 27:41-47. The CHS may have a conventional wireless connection. *See* '983 patent 24:55-59.

### III. DISCUSSION

#### A. The '918 Patent

The Asserted Claims for the '918 patent all depend from Claims 9 and 99. There are no material differences between Claims 9 and 99 and the claims held ineligible in *VIS I*. As set forth in the Ou Declaration, Tables 1 and 2 in Exhibit 4 compare claims of U.S. Patent No. 8,903,451 (the '451 patent) held ineligible in *VIS I* and the '918 patent claims. The red text pertains to receiving a wireless signal. The blue text pertains to processing the signal. The violet text pertains to providing the signal to a TV for display. The orange text pertains to common conventional hardware components (*e.g.*, a processor). In Claims 9 and 99, the **black bold** text shows an arguably new navigational command. But the specification explains:

Finally, the television is directed 1708 to display the converted content on a predetermined channel. This predetermined channel may, for example, be a tunable channel that is otherwise unused for other forms of content. To view video content in this fashion, the user merely *uses a channel button or the like to navigate to the appropriate channel*, and then the converted content is shown on the display screen of the television.

'918 patent 28:1-8 (emphasis added). Put simply, the user has to first press a button to change the TV to the right channel. This is a conventional and routine step as anyone who has connected a VCR to a TV is aware. Thus, Claims 9 and 99 of the '918 patent are materially indistinguishable from *VIS I*—any inventive concept must come from the dependent claims.

#### 1. *Alice* Step One

At *Alice* step one, “the claims are considered in their entirety to ascertain whether their character as a whole is directed to excluded subject matter.” *Two-Way Media Ltd v. Comcast*



*Cable Communc'ns.*, LLC, 874 F.3d 1329, 1337 (Fed. Cir. 2017) (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015)). Here, the Asserted Claims of the '918 patent are directed to the same abstract idea as in *VIS I*: “(1) receiving data; (2) processing data; and (3) providing or displaying data.” *VIS I*, 227 F. Supp. 3d at 596, *aff'd*, 718 F. App'x 988 (Fed. Cir. 2018). Claim 9 comprises “an input interface configured to receive a multimedia signal” (receiving data), a “processing unit configured to perform a conversion of the multimedia signal” (processing data), and “a high definition digital output interface” configured to transmit the signal (providing or displaying data). Similarly, Claim 99 of the '918 patent performs operations comprising of “receiving, through a wireless communication network, a multimedia signal” (receiving data), “converting the multimedia signal” (processing data), and “transmitting the converted multimedia signal” (providing or displaying data). The dependent claims do not change what the claims as a whole are directed to. Dependent Claims 27, 111, and 115 pertain to the communicating of item status information, which is merely a type of data:

[A] Management Center (MC) System receives, selects, converts, compresses, decompresses, and rout[e]s *data* to the user terminals. Various examples are presented and will be apparent to the ordinarily skilled artisan once instructed according to the teachings of this aspect. *By way of example*, signals such as those from a fire alarm or theft sensor are sent through the MC System to a user's cell phone and/or 911 Center.

'918 patent 21:33-40 (emphasis added). The specification indicates that diaper monitoring is an example of a system for providing item status updates. *See id.* at 5:18-21; 12:43-44. Receiving and transmitting diaper status signals is an example of receiving, converting, and transmitting data more generally: “Receiving, converting and transmitting multimedia content may be performed in two directions using the MC System. *For example*, this may include receiving and transmitting signals from . . . televisions, monitors, *diaper monitoring*, a video camera, fire alarm, theft sensor, etc.” *Id.* at 21:51-58 (emphasis added). Therefore, the item status information limitations do not change what the claims as a whole are directed to.

The key question here is “whether the claims in the patent focus on a specific means or method, or are instead directed to a result or effect that itself is the abstract idea and merely invokes generic processes and machinery.” *Two-Way Media*, 874 F.3d at 1337 (citing *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016)). “Claims directed to generalized steps to be performed on a computer using conventional computer activity are not patent eligible.” *Two-Way Media*, 874 F.3d at 1337 (citing *Internet Patents*, 790 F.3d at 1348-49). In *Two-Way Media*, the patents related “to a system for streaming audio/visual data over a communications system like the internet.” *Id.* at 1333. The representative claim recited “converting a plurality of streams of audio and/or visual information into a plurality of streams of addressed digital packets,” “routing” each “stream to one or more users,” “controlling the routing of the stream of packets in response to selection signals received from the users,” and “monitoring the reception of packets by the users and accumulating records” regarding which streams were received. *Id.* at 1334-35. The district court held that the claims were directed to the abstract idea of “(1) sending information, (2) directing the sent information, (3) monitoring receipt of the sent information, and (4) accumulating records about receipt of the sent information.” *Id.* at 1336. On appeal, the Federal Circuit affirmed, explaining that the representative claim used “result-based functional language” that did not “sufficiently describe how to achieve these results in a non-abstract way.” *Two-Way Media*, 874 F.3d at 1337 (citing *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1258-59 (Fed. Cir. 2016)). Even assuming the plaintiff’s claim construction, the court explained there was no indication of “how the claims are directed to a scalable network architecture that itself leads to an improvement in the *functioning* of the system.” *Two-Way Media*, 874 F.3d at 1338 (citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1338 (Fed. Cir. 2016)). “At best, the constructions propose the

use of generic computer components to carry out the recited abstract idea, but that is not sufficient.” *Id.* at 1338 (citations omitted).

Similarly, the claims here use generic computer components to accomplish ends that are described only in results-based functional language. The specification admits that each component is conventional. The processor, memory, and power supply are conventional:

That is, the MTSCM 1000 includes instructions that are stored in memory for execution by a processor. Any *conventional* or to-be-developed execution platform may be used. The processor, memory, and related elements such as a power supply are *well known* and need not be described herein to convey an understanding of the invention.

’918 patent 17:31-37 (emphasis added). The digital output interface from the digital video encoder to the external display is also conventional: “The signals respectively provided by the DAVE 1104 b and DDVE 1104 c are provided to the terminals through *conventional* interfaces 1106 a-b.” *Id.* at 19:25-27 (emphasis added). Finally, the apparatus itself operates on a conventional platform: “The CRC 520 operates on a *conventional* processing platform, and is configured to communicate wirelessly with the diaper condition sensing module 510.” *Id.* at 12:47-49 (emphasis added). The “short range wireless communication” is conventional: “This wireless communication channel preferably uses wireless technologies such as UWB, Bluetooth, RFID, Spread Spectrum, or other *conventional* wireless communication technologies.” *Id.* at 13:6-9 (emphasis added). The “wireless communication network” is also conventional: “This may implement a *traditional* wireless connection between the CHS and a cellular base station, with the communications implementing *conventional* wireless communications protocols.” *Id.* at 24:56-59 (emphasis added). Thus, the claims are not directed to an improved processor, memory, power supply, output interface, processing platform, or wireless communication technology.

Finally, the claims of the ’918 patent are not directed to an improved “household item,” which are not described in the claims. The only household item described at any length in the

specification is the diaper sensor. At best, the specification uses purely functional language to describe *what* to detect rather than *how* to detect it. *See* '918 patent 12:53-13:2. Such results-oriented language found only in the specification does not “sufficiently describe how to achieve these results in a non-abstract way.” *Two-Way Media*, 874 F.3d at 1337. Other household items are mentioned only in passing. *See* '918 patent 21:38-40; 21:53-58; 24:7-9; 24:26-27; 26:59-61.

The claims of the '918 patent are directed to manipulating and transmitting data. It does not matter whether the data being manipulated or transmitted is a video signal or item status information. What matters here is that the claims are not directed to a “specific asserted improvement in computer capabilities.” *Enfish*, 822 F.3d at 1336. As in *Two-Way Media*, the claims here at best *use* generic computer components to carry out the abstract idea of receiving, processing, and providing or displaying data, but that is not sufficient. The Federal Circuit has recognized that claims reciting “collecting information, analyzing it, and displaying certain results of the collection and analysis” are “a familiar class of claims ‘directed to’ a patent-ineligible concept” *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). “[I]nformation as such is an intangible’ and that collecting, analyzing, and displaying that information, without more, is an abstract idea.” *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1344 (Fed. Cir. 2018) (citing *Elec. Power Grp.*, 830 F.3d at 1353-54).

The claims here are similar to *Affinity Labs of Tex., LLC v. Amazon.com, Inc.*, 838 F.3d 1266 (Fed. Cir. 2016), in which the claims were “directed to media systems that deliver content to a handheld wireless electronic device.” *Id.* at 1267. The representative claim described “a network-based media system with a customized user interface, in which the system delivers streaming content from a network-based resource upon demand to a handheld wireless electronic device having a graphical user interface.” *Id.* at 1268. The district court held that the claims were

directed to the unpatentable abstract idea of “delivering selectable media content and subsequently playing the selected content on a portable device.” *Id.* 1268. On appeal, the Federal Circuit affirmed, explaining that the patent did “not disclose any particular mechanism for wirelessly streaming content to a handheld device.” *Id.* at 1269. The claims did nothing more than “describe a desired function or outcome, without providing any limiting detail that confines the claim to a particular solution to an identified problem. The purely functional nature of the claim confirms that it is directed to an abstract idea, not to a concrete embodiment of that idea.” *Id.* at 1269. Similarly, the claims of the ’918 patent here do not disclose any particular non-conventional mechanism for receiving, converting, or communicating data.

## 2. *Alice* Step Two

For an inventive concept, there “must be more than ‘well-understood, routine, conventional activity.’” *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1341 (Fed. Cir. 2017) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 79-80 (2012)). However, the few limitations of the ’918 patent distinguishable from *VIS I* all recite well-understood, routine, conventional activity.

### a. **Communicating status information about a household item in Claims 27, 111, and 115 of the ’918 patent**

Dependent Claims 27, 111, and 115 recite the wireless communication of status information about a household item from “a short range wireless communication.” But the Federal Circuit has already explained that using conventional technology to wirelessly communicate status information supplies no inventive concept. In *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341 (Fed. Cir. 2019), the patent related to “an apparatus and method for communicating information about the status of a movable barrier, for example, a garage door.” *Id.* at 1345. Specifically, “the movable barrier operator may communicate

information relating to the movable barrier’s status with respect to these actions with various peripheral devices, including sensors, alarms, displays, lights, and so forth.” *Id.* The district court determined that the claims were not directed to an abstract idea, but rather to “a particular improvement over prior art which uses a particular manner of sending and experiencing data.” *Id.* at 1345–46. The Federal Circuit reversed. At *Alice* step one, the Federal Circuit concluded that the asserted claim was “directed to wirelessly communicating status information about a system.” *Chamberlain*, 935 F.3d at 1346. The court explained: “the broad concept of communicating information wirelessly, without more, is an abstract idea.” *Chamberlain*, 935 F.3d at 1347. The court proceeded to *Alice* step two, where it found that “transmitting information wirelessly” was conventional at the time the patent was filed in 2003 and “could be performed with off-the-shelf technology.” *Chamberlain*, 935 F.3d at 1349. Finally, the court explained: “Wireless communication cannot be an inventive concept here, because it is the abstract idea that the claims are directed to.” *Id.* at 1349.

As a preliminary matter, the “household item[s]” in the ’918 patent are clearly similar to the “various peripheral devices, including *sensors, alarms, displays, lights, and so forth*” in *Chamberlain*, 935 F.3d at 1345 (emphasis added). The ’918 patent mentions diaper sensors, theft sensors, boiling water sensors, oven sensors, and fire alarms. *See* ’918 patent 5:18-21; 12:43-14:40; 21:38-40; 21:53-58; 24:7-9; 24:26-28; 25:17-24; 26:59-61. In *Chamberlain*, the court explained that the appropriate question at *Alice* step two was “whether each of ‘the [elements] in the claimed [product] . . . involve well-understood, routine, conventional activity previously engaged in by researchers in the field.’” *Chamberlain*, 935 F.3d at 1349 (citing *Mayo*, 566 U.S. at 73). In *Chamberlain*, “[t]he specification describes each individual element of the asserted claims—including the controller, the interface, and the wireless data transmitter—as ‘well

understood in the art.” *Chamberlain*, 935 F.3d at 1348. As discussed in Part III.A.1 above, the specification here admits that the hardware components were conventional. *See* ’918 patent 17:31-37; 19:25-27; 12:47-49. As with *Chamberlain*, the ’918 patent does not claim to have invented either of the two wireless communication technologies that the Asserted Claims use. Rather, the specification of the ’918 patent indicates that the claimed apparatus uses conventional wireless technologies. *See* ’918 patent 24:55-59; 13:6-9. As in *Chamberlain*, the mere use of off-the-shelf wireless technologies for their intended purpose does not supply an inventive concept.

Nor can an inventive concept be found in the individual household items, which are not described at all in the claims. The specification describes a “diaper condition sensing module” or “DCSM.” *See* 918 patent 12:53-13:17. Neither the claims nor the specification describe *how* such conditions are to be detected. ’918 patent 12:53-13:2. There is even less detail regarding the other possible household items which are mentioned only in passing. *See* ’918 patent 21:38-40; 21:53-58; 24:7-9; 24:26-27; 25:17-24; 26:59-61. Claim 115 of the ’918 patent recites “a unique identifier for the household item.” However, the specification explains that conventional approaches are used to allow communication with multiple sensors at the same resource. ’918 patent 13:10-14. In short, there is no inventive concept in the generic household items.

**b. Zigbee in Claims 30 and 113 of the ’918 patent**

Dependent Claims 30 and 113 limit the “short range wireless communication” to a “Zigbee communication,” which was one of many known wireless technologies. *See* ’918 patent 10:23-27; 30:57-61. In *Alice*, the Supreme Court explained that “the prohibition against patenting abstract ideas cannot be circumvented by attempting to limit the use of [the idea] to a particular technological environment.” *Alice*, 573 U.S. at 222 (citations omitted). The Zigbee claims here are similar to the dependent claims in *DIRECTV*, 838 F.3d at 1264, where the dependent claims recited “functions that are not inventive but simply constitute particular choices from within the

range of existing content or hardware . . . .” *Id.* Zigbee was merely another known standard that the ’918 patent considered to be “useful for many applications in light of the competing demands of working range, data rate and cost.” ’918 patent 13:15-17. Thus, limiting the short range wireless communication to the Zigbee standard cannot supply an inventive concept.

**c. Claim elements that did not add an inventive concept in *VIS I***

As demonstrated in Tables 1 and 2, there are no material differences between independent Claims 9 and 99 of the ’918 patent and the claims held ineligible in *VIS I*. (Ex. 4.) Thus, the reasoning and holding from *VIS I*, 227 F. Supp. 3d at 599-602, *aff’d*, 718 F. App’x 988 (Fed. Cir. 2018), are equally applicable here for the remaining claim elements in the ’918 patent. The *VIS I* court analyzed the *identical* specification language when analyzing signal conversion in the mobile terminal signal conversion module or “MTSCM.” *Compare* ’492 patent 3:51-8:16 *with* ’918 patent 16:29-21:6. As in *VIS I*, the MTSCM here describes an ends rather than a means. The ’918 patent does not describe how the signal is converted, but merely instructs that the signal is to be converted as appropriate. *See* ’918 patent 16:63-67 (“The MTSCM 912 processes the video signal to provide a converted video signal that has a display format and/or signal power level appropriate for an external display . . .”); 18:9-13 (“The converted signal may have a format and a signal power level that differs from the one used by the mobile terminal, as appropriate for one or more types of external devices to which the MTSCM 1000 is connected.”) As in *VIS I*, “the MTSCM can be provided by anything that achieves the claimed result, so long as the video signal is compressed and decompressed.” *VIS I*, 227 F. Supp. 3d at 600, *aff’d*, 718 F. App’x 988 (Fed. Cir. 2018). Here, as in *VIS I*, the input interface receives the signal, the decoder decompresses the signal, the encoder encodes the signal, and the output interface outputs the signal all with no indication as to *how*. *See* ’918 patent Claims 9 and 99. None of these limitations are meaningfully different from *VIS I*, and none supply an inventive concept.



Since *VIS I*, the Federal Circuit has also decided *RecogniCorp, LLC v. Nintendo Co.*, 855 F.3d 1322 (Fed. Cir. 2017), which has similar claims directed to “encoding and decoding image data.” *Id.* at 1326. There, the patent sought to solve the problem of digital transmission of images “by encoding the image at one end through a variety of image classes that required less memory and bandwidth, and at the other end decoding the images.” *Id.* at 1324. The district court determined that the asserted claims were: “directed to the abstract idea of encoding and decoding composite facial images using a mathematical formula.” *Id.* at 1325 (citations omitted). At *Alice* step two, the district court found that the patent contained no inventive concept because the entirety of the patent “consists of the encoding algorithm itself or purely conventional or obvious pre-solution activity and post-solution activity.” *RecogniCorp*, 855 F.3d at 1325.

The Federal Circuit agreed that the claims were “directed to the abstract idea of encoding and decoding image data.” *Id.* at 1326. The claims reflected, “standard encoding and decoding, an abstract concept long utilized to transmit information.” *Id.* Moreover: “Morse code, ordering food at a fast food restaurant via a numbering system, and Paul Revere’s ‘one if by land, two if by sea’ signaling system all exemplify encoding at one end and decoding at the other end.” *Id.* Turning to *Alice* step two, the Court explained: “To save a patent at step two, an inventive concept must be *evident in the claims*.” *RecogniCorp*, 855 F.3d at 1327 (citing *Alice*, 573 U.S. at 221) (emphasis added). Examining the claims, the court concluded that “RecogniCorp has not alleged a particularized application of encoding and decoding image data.” *Id.* at 1328.

Just as in *RecogniCorp*, the decoding and encoding limitations here do not allege a particularized application of decoding, decompressing, converting, or encoding the multimedia signal. Looking to the specification, we find further evidence that the conversion limitations are not for a particularized application. The specification explains: “The mobile terminal video

compression format *may of course vary*, but currently the most likely format is MPEG-1 or MPEG-2.” ’918 patent 18:47-49 (emphasis added). The ’918 patent does not (and could not) claim to have invented wirelessly transmitting MPEG videos over a wireless network, and in fact cites such transmission as prior art. ’918 patent at 4 (citing *Ralf Schafer et al., MPEG-4 Transmission Over Wireless Networks*, Proceeding of 9th European Signal Processing Conference (EUSIPCO) (Sept. 1998), at 245-248) (Ex. 5). In short, there is no inventive concept in the limitations of Claims 9 and 99, which are not materially different from the ineligible claims in *VIS I*. The ’918 patent did not invent a new way of decompressing, converting, or encoding multimedia data, but rather uses known compression schemes.

**d. Ordered Combination**

Nor is there an inventive concept in any of the Asserted Claims when considering the claim elements as an ordered combination. In *BASCOM Glob. Internet Servs. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016), the Federal Circuit concluded that there was an inventive concept as an ordered combination because the claims were directed to a “specific, discrete implementation of the abstract idea of filtering content.” The *VIS I* court explained “when claims are laid out in purely functional language and use conventional technology in a typical manner, they are not patent eligible as an ‘ordered combination.’” *VIS I*, 227 F. Supp. 3d at 595, *aff’d*, 718 F. App’x 988 (Fed. Cir. 2018) (citing *TLI Commc’ns LLC v. AV Auto., L.L.C. (In re TLI Commc’ns LLC Patent Litig.)*, 823 F.3d 607 (Fed. Cir. 2016); *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350 (Fed. Cir. 2016)). For the Asserted Claims here, there is nothing specific or discrete about the claims, which rely on generic computer components, generic computer functions, conventional wireless technologies, and functional household items.

The dependent claims of the ’918 patent mention a “*short range* wireless communication” implying that the short range communication is not through “the wireless

communication network.” But there is no inventive concept in multiple wireless channels. The ’918 patent does not claim to have invented the first device with two wireless channels. Indeed, the ’918 patent cites an article about the first Bluetooth phone, which had both Bluetooth and a separate wireless communication network. ’918 patent at 4 (citing *Laura Rohde, Ericsson Demos First Bluetooth Phone*, CNN.com (June 8, 2000)) (“The T36 mobile phone comes loaded with a WAP 1.2.1 browser and supports HSCSD (High Speed Data) making the mobile phone faster than a standard GSM connection”) (Ex. 6). The conventionality of a separate short range wireless communication is further demonstrated by the ’918 patent’s citation to the “Bluetooth protocol, including the protocol itself as well as all evidence of its contents, adoption, and implementation . . . .” ’918 patent at 4. In short, there is nothing inventive about having two communications channels. *See also Twilio, Inc. v. Telesign Corp.*, 249 F. Supp. 3d 1123, 1150 (N.D. Cal. 2017) (no inventive concept where claims required transmitting a message through a first channel and receiving a message delivery report through a second channel where the second channel is different from the first channel); *Maxon, LLC v. Funai Corp.*, 726 F. App’x 797, 798 (Fed. Cir. 2018) (no inventive concept where claims required storage for address corresponding to a personal network and a separate address corresponding to a service provider network).

There is nothing innovative in receiving, processing, and providing or displaying a multimedia signal. *See VIS I*, 227 F. Supp. 3d 582 (E.D. Va. 2017), *aff’d*, 718 F. App’x 988 (Fed. Cir. 2018). Nor is there anything innovative about wirelessly communicating status information about a household item. The specifications of the ’918 patent describe how the alleged invention can detect and signal that water is boiling. *See* ’918 patent 25:15-24. But long before the ’918 patent, tea kettles wirelessly communicated the status of water boiling through a simple whistle. Nor is there anything innovative about combining multimedia signals with status information.

Consider an elevator that has an intercom button (transmitting a voice signal) next to an emergency alarm button (status update). Or consider the process of getting buzzed into an apartment building after speaking to a resident on the intercom. For decades, security guards have used surveillance cameras alongside alarms. Even a simple rotary phone by itself can communicate a status update—the ringing of the phone to indicate that someone is calling. All of these examples show that there is no inventive concept as an ordered combination.

**B. The '983 and '798 Patents**

In *VIS I*, the court determined that “[f]or the purposes of the eligibility determinations, there are no material differences in the claims of the individual patents in the ’492 patent family” and therefore addressed them as a family. *VIS I*, 227 F. Supp. 3d at 588 n.2, *aff’d* 718 F. App’x 988 (Fed. Cir. 2018). Here, there is no material difference between the claims of the ’918 patent and the claims of the ’983 and ’798 patents. Therefore, the discussion in Part III.A above is equally applicable for the ’983 and ’798 patents.

Terminal disclaimers of the Asserted Patents are a strong clue that they are not patentably distinct. During prosecution, terminal disclaimers were filed to obviate obviousness-type double patenting rejections over each other and the *VIS I* Patents. *See* exs. 7-8: the ’798 patent identified as application No. 15/070,439. In the context of claim preclusion, the Federal Circuit has explained that terminal disclaimers are “a strong clue” that “the claims in the continuation lacked a patentable distinction over the parent.” *SimpleAir, Inc. v. Google LLC*, 884 F.3d 1160, 1168 (Fed. Cir. 2018). Though not conclusive, courts should give “considerable weight” to such disclaimers. *Id.* Thus, this Court should consider the terminal disclaimers as “a strong clue” that the Asserted Patents lack a patentable distinction with each other and with the *VIS I* Patents.

Tables 3 and 4 in Exhibit 4 compare the claims of the ’451 patent held ineligible in *VIS I* and the ’983 patent. Table 5 compares the ineligible ’451 patent with the ’798 patent. (Ex. 4.)

The only arguably new aspects in the '983 and '798 patents are communicating item status information (green text) in Claims 22 and 62 of the '983 patent and Claims 1 and 52 of the '798 patent, the Zigbee limitation in Claim 39 of the '983 patent, and the unique hub identifier in Claim 1 of the '798 patent. But as explained below, none of these add an inventive concept.

# 1. *Alice* Step One

The '983 and '798 patents are directed to the same abstract idea of “(1) receiving data; (2) processing data; and (3) providing or displaying data” as were the *VIS I* Patents, 227 F. Supp. 3d at 596, *aff'd*, 718 F. App'x 988 (Fed. Cir. 2018). In Tables 3 to 5 of Exhibit 4, the red text pertains to receiving data, the blue text pertains to processing data, and the violet text pertains to providing or displaying data. (Ex. 4.) The communicating of item status information (green text) does not change what the claims as a whole are directed to because status information is simply a type of data being sent and/or received: “Receiving, converting and transmitting multimedia content may be performed in two directions using the MC System. *For example*, this may include receiving and transmitting signals from . . . televisions, monitors, diaper monitoring, a video camera, fire alarm, theft sensor, etc.” '983 patent 21:51-58; '798 patent 21:45-51 (emphasis added). *See also* '983 patent 21:32-40; '798 patent 21:26-34. The claims of the '983 and '798 patents are not directed to an improved processing platform, access mechanism to communicate with multiple sensors, processor, memory, power supply, output interface, or wireless communication technology—all of which are conventional. *See* '983 patent 17:30-37; 19:23-27; 12:47-48; 13:5-9; 24:55-59; '798 patent 12:42-44; 13:5-9; 17:25-31; 17:57-59; 19:14-20; 24:48-52; 13:1-4. At best, the claims of the '983 and '798 patents *use* these generic computer components and processes to carry out the abstract idea, but that is not sufficient. *See Two-Way Media*, 874 F.3d at 1338. Finally, the claims are not directed to an improved “item,” which is not described in the claims and is described at best in functional language in the specification. *See*

'983 patent 12:54-13:2; 21:38-40; 21:53-58; 24:7-9; 24:26-28; 26:59-61; '798 patent 12:49-64; 21:32-34; 21:47-52; 23:67-24:2; 24:19-20; 26:52-54. As in *Two-Way Media*, 874 F.3d at 1337 and *Affinity Labs of Tex., LLC v. Amazon.com, Inc.*, 838 F.3d 1266 (Fed. Cir. 2016) discussed in Part III.A.1 above. The claims here are abstract data manipulation and transmission claims.

## 2. *Alice* Step Two

Turning to *Alice* step two, there are again a small number of claim elements that could plausibly supply an inventive concept because most claim elements in the '983 and '798 patents correspond to limitations found to be lacking in an inventive concept in *VIS I*.

### a. **Communicating item status information in Claims 22 and 62 of the '983 patent and Claims 1 and 52 of the '798 patent**

As discussed in Part III.A.2.a above, communicating item status information cannot furnish an inventive concept for Claims 22 and 62 of the '983 patent and Claims 1 and 52 of the '798 patent. Under *Chamberlain*, the mere use of known off-the-shelf technologies to communicate status information for household items, such as sensors and lights, does not supply an inventive concept. *See Chamberlain*, 935 F.3d at 1349. The components are admittedly conventional per the specifications. *See* '983 patent 17:30-37; 19:23-27; 12:47-48; 13:5-9; 24:55-59; '798 patent 12:42-44; 13:5-9; 17:25-31; 17:57-59; 19:14-20; 24:48-52; 13:1-4. Nor can the "item[s]" in these claims furnish the inventive concept as they are not described in the claims, and are barely described in the specifications except in results-oriented language. *See* '983 patent 12:54-13:2; 21:38-40; 21:53-58; 24:7-9; 24:26-28; 26:59-61; '798 patent 12:49-64; 21:32-34; 21:47-52; 23:67-24:2; 24:19-20; 26:52-54. In short, the '983 and '798 patents *use* off-the-shelf technologies for their intended purpose, and therefore are lacking in an inventive concept.

### b. **Separate networks in Claim 22 of the '983 patent**

Unlike the '918 patent, Claim 22 of the '983 patent specifically recites "the network

communication channel is separate from a wireless channel for the short range wireless communication.” However, this does not furnish an inventive concept for the same reasons as discussed in Part III.A.2.d above. Plaintiff cannot claim to have invented the first device with a separate short range wireless communication channel. (*See ex. 6.*)

**c. Zigbee in Claim 39 of the ’983 patent**

As discussed in Part III.A.2.b above, the limiting of the “wireless channel” to a “Zigbee channel” in Claim 39 of the ’983 patent is merely limiting the abstract idea “to a particular technological environment.” *Alice*, 573 U.S. at 222. *See also DIRECTV*, 838 F.3d at 1264.

**d. The unique hub identifier in Claim 1 of the ’798 patent**

Claim 1 recites: “the centralized hub system being associated with a unique hub identifier stored in at least one mapping table.” However, the unique identifier cannot furnish an inventive concept—it is nothing more than a trivial and conventional implementation step.

The specification of the ’798 patent explains the meaning of mapping table and unique identifier: “The MC System also includes a mapping table and a routing module. The mapping table is described further below. It matches phone numbers, cable ports, DSL ports, IP addresses, etc.” ’798 patent 21:58-61. The routing module “receives the relevant information concerning routing from the results of looking up the same in the mapping table, and carries out the routing accordingly.” ’798 patent 22:1-4. Inbound communications to the MC System may have a data package with a “unique device identifier that is associated with each device managed by the MC System. The mapping table is queried for the presence of the unique identifier. Once this is successfully performed, corresponding information regarding the processing of the communication may be automatically gathered from the mapping table.” ’798 patent 22:30-36.

This is no more inventive than an address book. In essence, Claim 1 and the specification explain that the system should keep an address book (*i.e.*, a “mapping table”) of all the names

(*i.e.*, “unique device identifier[s]”) and addresses (*e.g.*, “IP addresses”) of recipient devices. If the system receives an inbound communication with a particular name, then the system will look up the name on the table to route the communication to the right address. This is not inventive. Any system for receiving and routing data must necessarily track where to route it.

Furthermore, the Federal Circuit has already addressed unique identifiers in computer networking in *Bridge & Post, Inc. v. Verizon Commc’ns, Inc.*, 778 F. App’x 882 (Fed. Cir. 2019). In *Bridge & Post*, the patents described “tracking a user’s computer network activity and using information gained about the user to deliver targeted media, such as advertisements.” *Id.* at 884 (citation omitted). One improvement over the prior art was the use of “persistent device identifier[s]” to overcome the problem of “privacy-concerned users deleting cookies and tracking data.” *Id.* at 885. One claim described “retrieving a persistent device identifier” of a user’s device, determining a user’s “current network address,” storing and later using a user profile that includes the “the current network address” and “persistent device identifier.” *Id.* at 886-87. The Federal Circuit explained: “The recited steps of ‘retrieving a persistent device identifier,’ ‘determining’ and ‘retrieving’ information associated with the identifier, ‘analyzing’ the information, and ‘placing directed media’ based on that analysis are nothing more than a computer-implementation of targeted marketing over the Internet.” *Id.* at 887. Another claim described “creating a unique device identifier” derived from a device’s “MAC address, port identifier, or hardcoded identifier embodied in software or hardware and assigned to the client computer.” *Id.* at 888. At *Alice* step 2, the court held that there was no inventive concept as that plaintiff did not invent the persistent identifier, which was conventional. *Bridge & Post*, 778 F. App’x at 891. Nor was there an inventive concept as an ordered combination as the claims recited “no more than a computer implementation of the abstract idea of using persistent



identifiers to implement targeted marketing, lacking anything ‘significantly more.’” *Id.*

As in *Bridge & Post*, Claim 1 does not describe an improvement to computer networking technology. Plaintiff did not invent computer networking, data packets, routing of data packets, or an improvement to computer networking technology. The alleged invention *makes use of* well-known networking protocols, such as the TCP/IP protocol. *See* ’798 patent 29:49-56. The unique identifier does not furnish an inventive concept to otherwise ineligible claims.

**e. Claim elements that did not add an inventive concept in *VIS I***

The remaining elements correspond to limitations in the claims in *VIS I*, which were held to lack an inventive concept. The conversion limitations (blue text) correspond to the MTSCM in *VIS I*, 227 F. Supp. 3d at 599-602, *aff’d*, 718 F. App’x 988 (Fed. Cir. 2018). Furthermore, these limitations do not allege a particularized application of decoding, decompressing, converting, or encoding the signal “evident in the claims” as required by *RecogniCorp*, 855 F.3d at 1326-28.

Claim 73 of the ’983 patent and Claims 29 and 30 of the ’798 patent mirror ineligible Claim 49 of the ’451 patent, and merely limit the abstract idea to the particular technological environment of cell phones or mobile terminals. *See Alice*, 573 U.S. at 222. Claim 75 of the ’983 patent and Claim 22 of the ’798 patent mirror power supply language (orange text in Tables 4 and 5 of ex. 4) in ineligible Claims 47 and 50 of the ’451 patent. As in *VIS I*, for Claim 75 of the ’983 patent and Claim 22 of the ’798 patent, “there is no further description as to how this power transfer should be achieved. There is no cable design, specified power level, or anything else that narrows the claim.” *VIS I*, 227 F. Supp. 3d at 602, *aff’d*, 718 F. App’x 988 (Fed. Cir. 2018).

**f. Ordered Combination**

As with the ’918 patent, there is no inventive concept as an ordered combination. The discussion in Part III.A.2.d above is equally applicable to the ’983 and ’798 patents.

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that all counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on February 25, 2020.

/s/ Yar R. Chaikovsky

Yar R. Chaikovsky